ABSTRACT OF THE DISCLOSURE

A laser driver for generating drive waveforms that are suitable for driving a single VCSEL or an array of VCSELs. A digital controller is integrated into the laser driver and is utilized to initially program and selectively adjust during the operation of the driver one or more of the following VCSEL drive waveform parameters: (1) bias current, (2) modulation current, (3) negative peaking depth, and (4) negative peaking duration. The laser driver has an aging compensation mechanism for monitoring the age of the laser and for selectively adjusting the dc and ac parameters of the VCSEL drive waveform to compensate for the aging of the laser. The laser driver also has a temperature compensation mechanism for monitoring the temperature of the driver IC and selectively adjusting the dc and ac parameters of the VCSEL drive waveform to compensate for the changes in temperature.